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10/566,094	10/03/2006	Ramon Merce Vidal	284057US0PCT	9552	
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			4161		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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	Application No.	Applicant(s)	
	10/566,094	MERCE VIDAL ET AL.	
Office Action Summary	Examiner	Art Unit	
	CRAIG RICCI	4161	
The MAILING DATE of this communication appeariod for Reply	ppears on the cover sheet with the c	correspondence address	
A SHORTENED STATUTORY PERIOD FOR REP WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory perio - Failure to reply within the set or extended period for reply will, by statu. Any reply received by the Office later than three months after the mail earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICATION 1.136(a). In no event, however, may a reply be tir d will apply and will expire SIX (6) MONTHS from the, cause the application to become ABANDONE	N. nely filed the mailing date of this communication. ED (35 U.S.C. § 133).	
Status			
Responsive to communication(s) filed on 21 This action is FINAL . 2b) ☑ The 3) ☐ Since this application is in condition for allow closed in accordance with the practice under	ris action is non-final.		
Disposition of Claims			
4) ☐ Claim(s) 1-73 is/are pending in the application 4a) Of the above claim(s) 15-17,20-45 and 48 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-14, 18-19, and 46-47 is/are reject 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and are subject to restriction and are subjected to by the Examing 10) ☐ The drawing(s) filed on is/are: a) ☐ according to the subject to the subject to the examination of the drawing(s) filed on is/are: a) ☐ according to the subject to the subject to the examination of the subject to the subje	8-73 is/are withdrawn from conside ted. /or election requirement. ner. ccepted or b) □ objected to by the	Examiner.	
Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the E	ection is required if the drawing(s) is ob	jected to. See 37 CFR 1.121(d).	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority document of the priority document of the priority document of the copies of the priority document of the certified copies of th	nts have been received. nts have been received in Applicati iority documents have been receive au (PCT Rule 17.2(a)).	ion No ed in this National Stage	
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 5/07/2007, 4/21/2006, 4/17/2006, 1/27/	4) Interview Summary Paper No(s)/Mail D: 5) Notice of Informal F /2006. 6) Other:	ate	



Application No.

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DETAILED ACTION

Status of the Claims

1. Claims 1-73 are currently pending and the subject of this Office Action. Claims 15-17, 20-45, and 48-73 are withdrawn. This is the first Office Action on the merits of the claims.

Information Disclosure Statement

2. All references have been considered.

Priority

- 3. The earliest effective filing date afforded the instantly claimed invention has been determined to be 07/29/2004 as to claims 1-14, 18-19, and 46-47.
- 4. Acknowledgment is made of Applicant's claim for foreign priority pursuant to 35 U.S.C. 119(a) and 365(b) based on a prior application filed in Spain on 7/30/2003. The certified copy has been filed in parent Application No. PCT/EP04/08511, filed on 07/29/2004.

Election/Restrictions

5. Applicant's election with traverse of Group I, sulfonamide compounds in the reply filed on 5/21/2008 is acknowledged. Lack of unity was based on the fact that instant claim 14 includes the compound N-[3-(2-diethylaminoethyl)-1H-indole-5-yl]-5-chloro-3-methylbenzo[b]thiophene-2-sulfonamide (claim 14, example 24) and furthermore *Merce-Vidal et al* (WO 03/042175 A1) teach N-[3-(2-diethylaminoethyl)-1H-indole-5-yl]-5-chloro-3-methylbenzo[b]thiophene-2-sulfonamide (Page 5, Lines 7-8, Example 1). Applicant argues that the teaching of *Merce-Vidal et al* is incorrect and does not

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correspond to the compound described in *Merce-Vidal et al*. Examiner disagrees. Rather, the instant application contains the misnamed compound and example 24 should read N-[1-(2-diethylaminoethyl)-1H-indole-5-yl]-5-chloro-3-methylbenzo[b]thiophene-2-sulfonamide (compare instant examples 1 and 24). Applicant is advised to correct the instant application accordingly.

- 6. Examiner maintains unity of invention is broken based on *Merce-Vidal et al* as discussed below. The requirement is still deemed proper and is therefore made FINAL.
- 7. Applicant further elected the specie compound according to Formula (lb) wherein

R1 is (CH₃)₂-N-; R2-7 is H; n is 2; and A is

where m is 0

(zero); X is 2 nitro; Y and Z are H (i.e., A is 2 nitrophenyl). The elected species read upon claims 1-7, 9-14, 18-19 and 46-47.

8. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/21/2008.

Allowable Subject Matter

9. The elected species was searched and is deemed free of the prior art. The search was therefor expanded as called for under Office Markush practice – a compound by compound search – to include a single additional species. That species

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is defined as

(for claims 1-8 and 18-19)

and

(for claims 9-14 and 46-47).

10.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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12. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, for lacking antecedent basis.

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- 13. Claim 14 recites the limitation "N-[3-(2-diethylaminoethyl)-1H-indole-5-yl]-5-chloro-3-methylbenzo[b]thiophene-2-sulfonamide" in claim 9. However, Formula (lb) in claim 9 does not provide for the possibility of said compound. Accordingly, there is insufficient antecedent basis for this limitation in the claim.
- 14. Claims 1-7, 9-13, 18-19, and 46-47 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- 15. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1 and 9, upon which claims 2-7, 10-13, 18-19, and 46-47 depend, recite the broad recitation "optionally

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in form of one of its stereoisomers" and the claim also recites "preferably enantiomers or diastereomers, its racemate or in form of a mixture of at least two of its steroisomers, preferably enatiomers or diastereomers" which is the narrower statement of the range/limitation. Similarly, claim 2 states "at least one heteroatom as a ring member, whereby the rings of the ring system are 5- or 6-membered" (which is broad) and the narrower statement:

preferably R³ represents an -NR⁸R⁹ radical or a radical chosen from the group consisting of

Additionally, claims 3, 4, 7, 10, 11, 12, and 13 specifically contain broad recitations which are followed by narrower statements. Accordingly, claims 1-7, 9-13, 18-19, and 46-47 are rejected.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 9 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by *Merce-Vidal* (WO 03/042175 A1) for which *Merce-Vidal et al* (Canadian Patent Application CA 2466965) is being used as the English equivalent thereof.

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17. Instant claim 14 is drawn to compounds according to claim 9 selected from the group consisting of N-[3-(2-diethylaminoethyl)-1H-indole-5-yl]-5-chloro-3-methylbenzo[b]thiophene-2-sulfonamide (instant claim 14, Example 24). *Merce Vidal et al* teach the instant compound (Page 4, Lines 30-31, Example 1). Accordingly, claim 14 is anticipated.

Claim Rejections - 35 USC § 103

- 18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 19. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 20. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 - 1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.

- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 21. Claims 1-14, 18-19, and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Merce-Vidal et al* (WO 03/042175 A1) in view of *Filla et al* (WO 02/060871) for which *Merce-Vidal et al* (Canadian Patent Application CA 2466965) is being used as the English equivalent thereof.
- 22. Claim 1 teaches the following generic

compound

wherein the variable groups are

defined in the claim and which are compounds useful as 5-HT₆ modulators. More specifically, claims 1-8 teach the specie of Formula (Ia) N-[1-(2-pyrrolidine-1-yl-ethyl)-

1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 8, Example 17) having the following

structure: (Page 78, Example 17).

23. *Merce-Vidal et al* teach a 5-HT₆ modulator N-{3-[2-(pyrrolidin-1-yl)-ethyl]-1H-indole-5-yl}-naphthalene-1-sulfonamide (Page 6, Line 21, Example 45) having the

following structure:

(Page 26, Example

45).

24. Accordingly, the only difference between the instant specie and that taught by $Merce-Vidal\ et\ al$ is the placement of instant -(CH₂)_n-R₁ (wherein -(CH₂)_n-R₁ are the

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same) on the indole core. The subtle differences that stem between the shift of -(CH₂) n-R₁ from position 3 on the indole ring (as in *Merce-Vidal et al*) to position 1 on the indole ring (as in the instant application) are irrelevant since the MPEP 2144.09 states "Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH2- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977).

Moreover, Filla et al teach 5-HT₆ modulators such as the following compounds:

(Page 67, Example 28) and

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(Page 68, Example 29) which teach

substitution at position 1 on the indole ring. Thus, at the time the invention was made, one of ordinary skill in the art would have been motivated to take the - $(CH_2)_n$ - R_1 group or similar variants, and place it at various positions on the indole ring (for example at position 1) to give 5-HT₆ modulators. Thus, the claims are obvious under 35 U.S.C. 103(a).

25. Claim 9 teaches the following generic

compound wherein the variable groups are

defined in the claim. More specifically, claims 9-14 teach the specie of Formula (lb) N-[1-(2-dimethylaminoethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 14,

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Example 3) having the following structure:

(Page72, Example 3).

26. *Merce-Vidal et al* teach N-[3-(2-dimethylaminoethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (Page 5, Line 3, Example 8) having the following structure:

(Page 16, Example 8).

27. Accordingly, the only difference between the instant specie and that taught by *Merce-Vidal et al* is the placement of instant -(CH₂)_n-R₁ (wherein -(CH₂)_n-R₁ are the same) on the indole core. The subtle differences that stem between the shift of -(CH₂)_n-R₁ from position 3 on the indole ring (as in *Merce-Vidal et al*) to position 1 on the indole ring (as in the instant application) are irrelevant since the MPEP 2144.09 states "Compounds which are position isomers (compounds having the same radicals in

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physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH2- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977).

- 28. Furthermore, as discussed above, *Filla et al* teach 5-HT₆ modulators containing the same instant core substituted at position 1 of the indole ring. Accordingly, one of ordinary skill in the art would have been motivated to take the - $(CH_2)_n$ -R₁ group or similar variants, and place it at various positions on the indole ring (for example at position 1) to give 5-HT₆ modulators. Thus, the claims are obvious under 35 U.S.C. 103(a).
- 29. Claims 18 and 46 and drawn to medicaments including the compound of claim 1 or claim 9, respectively, an optionally at least one or more pharmacologically acceptable excipients. *Merce-Vidal et al* specifically teach "pharmaceutical compositions that comprise... an acceptable pharmaceutical excipient" (Page 11, Lines 6-8).
- 30. Claims 19 and 47 are drawn to the medicaments of claims 18 and 46, respectively, for the treatment of various conditions including, for example, anxiety. *Merce-Vidal et al* specifically teach "a medicament… useful for preventing or treating various disorders of the Central Nervous System, and particularly anxiety" (Page 11, Lines 11-12).

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Double Patenting

31. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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32. Claims 1-14 and 18 and 46 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 18 and 46 of copending Application No. 10/566,101 in view of *Laconde et al* (J Enzyme Inhib Med Chem 18(2):89-94, 2003). Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

33. As discussed above, the instant application teaches the specie of Formula (Ia) N-[1-(2-pyrrolidine-1-yl-ethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 8, Example 17) having the following structure:

(Page 78, Example 17) which

encompasses claims 1-8 and Formula (lb) N-[1-(2-dimethylaminoethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 14, Example 3) having the following structure:

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(Page72, Example 3) which encompasses

claims 9-14.

- 34. The '101 application teaches the compound species N-[1-(2-pyrrolidine-1-yl-ethyl)-1H-indole-6-yl]-naphthalene-1-sulfonamide (claim 8, Example 11) and N-[1-(2-dimethylaminoethyl)-1H-indole-6-yl]-naphthalene-1-sulfonamide (claim 14, Example 3). Accordingly, the only difference between the copending applications is the position of the sulfonamide on the indol ring; namely, position 5 (in the instant application) and position 6 in the '101 appliction.
- 35. MPEP 2144.09 states "Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH2- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977).

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36. Furthermore, *Laconde et al* teach compounds having the sulfonamide on position 6 of the indol ring:

Reagents: i. MsCi, Et₁N, CH₂Ci₂; ii. K₂CO₃, Acotone; iii. NH₄Cl, Fe, propan-2-ol; iv. Pyridine, DMF

Compounds	N° of intermediates	Substitution on the indole ring	R	*(%) eoitidial
7a	3a, 4a, 5a	5	H (6a)	. 0
78	3a, 4a, 5a	5	2-COOMe (6b)	13.64 ± 0.7
7e	3a, 4a, 5a	\$	4-SO2NH2 (6c)	0
7 d	3s, 4s, 5s	5	4-Mc (6d)	9
7e	3a, 4a, 5a	5	4-CI (6e)	17.25 ± 0.8
7#	3a, 4a, 5a	5	4-OMc (6f)	34.50 ± 1.7
7g	3a, 4a, 5a	\$	4-CF ₂ (6g)	9
7h	3a, 4a, 5a	\$	2-CF ₃ (6h)	9
71	3b, 4b, 5b	. 6	2-COOMe (6b)	15.90 ± 0.8
74	3c, 4c, 5c	7	2-COOMe (6b)	45.50 * 2.2

(Page 93,

Figure 1). Accordingly, one of ordinary skill in the art would have been motivated to take sulfonamide group or similar variants, and place it at various positions on the indole ring, as they would be expected to have similar properties (for example at position 5, 6, or 7).

37. Claims 18 and 46 of the '101 application are drawn to medicaments containing an excipient. Accordingly, instant claims 18 and 46 are provisionally rejected.

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This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

- 38. Claims 1-14 and 18 and 46 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 18 and 46 of copending Application No. 10/566,403 in view of Laconde et al (J Enzyme Inhib Med Chem 18(2):89-94, 2003). Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:
- 39. As discussed above, the instant application teaches the specie of Formula (Ia) N-[1-(2-pyrrolidine-1-yl-ethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 8, Example 17) which reads upon claims 1-8. Copending application teaches N-[1-(2-pyrrolidine-1-yl-ethyl)-1H-indole-7-yl]-naphthalene-1-sulfonamide (claim 8, Example 6).
- 40. As discussed above, the instant application teaches the specie of Formula (Ib) N-[1-(2-dimethylaminoethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 14, Example 3). Copending application teaches N-[1-(2-dimethylaminoethyl)-1H-indole-5-yl]-naphthalene-1-sulfonamide (claim 14, Example 1).
- 41. Claims 18 and 46 of copending application '403 are drawn to compositions comprising the compound and one or more pharmacologically acceptable excipients.
- 42. For the reasons discussed above claims 1-14 and 18 and 46 are provisionally rejected.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRAIG RICCI whose telephone number is (571)270-5864. The examiner can normally be reached on Monday through Thursday, and every other Friday, 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Nolan can be reached on (571) 272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CRAIG RICCI/ Examiner, Art Unit 4161

/Ashwin Mehta/ Primary Examiner, Technology Center 1600